

ELEMENTARY EXPLORATION: Simple Machines: Lever

Background: You and your best friend are on the playground. Your friend weighs 100 pounds and you weigh 50 pounds. He dares you to lift him and hold him up for 5 minutes. A simple machine called a lever can help you.

Question: Can you lift an object much heavier than you are?

Hypothesis: I think I ...

Materials: 2 pencils (hexagonal - not round)
3 pennies
Tape
Ruler

Procedure:

1. Make a lever with two pencils. Tape one penny to each end of the top pencil.
2. Move the top pencil until the lever is balanced. Measure the distances from the middle of each penny to the fulcrum. Are the distances the same?
3. Tape two pennies to one end of the top pencil and one penny to the other end.
4. Move the top pencil until the lever is balanced. Measure the distances from the middle of the pennies to the fulcrum. Which distance is longer?

Conclusion: How would you set up a seesaw so that you can lift your friend?

If you want to lift a 200 pound rock, how would you set up a seesaw?

The top pencil is the LEVER.
The bottom pencil is the FULCRUM.

